

OZONE DRYER

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Abstract of CA1256284

The present invention relates to a method of drying and purifying articles of clothing and the like, and a dryer for carrying out the method of the present invention. The method comprises subjecting the articles to air circulated within a generally closed chamber and further introducing ozone into the chamber. The dryer itself includes an air inlet to the chamber with an ozone unit, which is preferably located at the air inlet for introducing the ozone with the air circulated within the chamber.

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(19) (CA) **CANADIAN PATENT** (12)

(54) Ozone Dryer

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Canada

(73) Granted to Geonate Holdings Inc.
Canada

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ABSTRACT OF THE DISCLOSURE

1 The present invention relates to a method of drying
and purifying articles of clothing and the like, and a dryer
for carrying out the method of the present invention. The
method comprises subjecting the articles to air circulated
5 within a generally closed chamber and further introducing ozone
into the chamber. The dryer itself includes an air inlet to
the chamber with an ozone unit, which is preferably located at
the air inlet for introducing the ozone with the air circulated
within the chamber.

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FIELD OF THE INVENTION:

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1 The present invention relates to a method of drying
and purifying articles of clothing, and the like, using heated
air and ozone for attacking bacterial contamination of the
clothing.

5 BACKGROUND OF THE INVENTION:

10 Probably the most common method of cleaning clothing,
bed sheets, or other similar articles, is to water wash the
articles, using detergents, bleaches, etcetera, in a washing
machine. After the washing cycle has been completed, the
articles are then generally placed in a heated dryer.

15 This method, which is common to both residential, as
well as industrial situations, such as hospitals, does not
ensure elimination of bacterial contamination of the articles.
The washing cycle is effective against visible stains, and the
like, however, it does not necessarily kill bacteria and germ
spores, which are particularly prevalent in hospital
20 environments.

SUMMARY OF THE PRESENT INVENTION:

1 The present invention provides a method of drying and
purifying articles of clothing, and the like, applicable to
both residential and industrial uses. The method comprises
5 subjecting the articles to air circulated within a generally
closed chamber, and further introducing ozone into that
chamber. The ozone, which is known to attack bacteria.
15 microbes and germs, provides purification of the articles in
the chamber.

BRIEF DISCUSSION OF THE DRAWINGS:

10 The above, as well as other advantages and features of
the present invention will be described in greater detail,
according to the preferred embodiments of the present invention
15 in which:

20 Figure 1 is a partially cut-away, perspective view of
a dryer, incorporating an ozone-producing unit,
according to a preferred embodiment of the present
invention;

DETAILED DESCRIPTION ACCORDING TO PREFERRED EMBODIMENTS
OF THE PRESENT INVENTION:

1 Figure 1 shows a dryer, generally indicated at 1.
This dryer will vary in size, or capacity, depending upon its
use, i.e., either in a residential application, or in an
industrial application, such as a hospital, or the like, where
5 the dryer will be of increased drying capacity.

 The dryer comprises an internal drying chamber 3,
which includes a conventional rotating drum 4, for tumble
drying of articles of clothing, bed sheeting, or any other
10 appropriate articles, to be placed in the dryer. These
articles will have already been washed for soil and dirt
removal so that they are wet from the washing, however,
conventional washing techniques do not eliminate the growth of
certain types of bacteria, microbe and germs, which remain with
15 the articles, even after they have been wet-washed. However,
the present invention is specifically directed to overcome this
difficulty, as described below.

The articles when placed in the dryer are subjected to a drying action by means of heated air circulated within the drying chamber and introduced through an air intake comprising inlet 7 and air passage 5 directing the air to the rotating drum by a blower within the dryer but not shown. Again, in accordance with conventional practice this air is heated by means of a heater positioned along the air intake.

However in contrast to conventional practice dryer 1 further includes an ozone producing unit 9 mounted directly at the air intake to the dryer. Accordingly, the ozone or O₃ produced at unit 9 is moved by the blower along the flow path with the heated air through passage 5 and circulated within the drying chamber. The air is then discharged out through the back of the dryer through an air outlet adjacent inlet 7 and again not shown.

The effect of the ozone is to purify the clothing by attacking any bacterial microbe or germ spores which may have contaminated the clothing. This ozone is best produced by an electrical corona grid across the air passage or inlet as shown.

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1 According to the arrangement shown in the drawings,
dryer 1 includes a timer 11, which sets the operating time for
the dryer, and which also controls the operating time for the
ozone producing unit. With this arrangement, any time the
5 dryer is in operation, the ozone unit in turn operates to
produce ozone fed through the blower, to the drying chamber.
Through this arrangement, in which the ozone unit is set to
automatically operate at all times when the dryer is in
operation, there is no need to add any separate chemical
10 purifiers, fresheners, cloth or tissue purifiers, or the like,
which can otherwise be easily forgotten.

 The ozone which is introduced into the dryer chamber
provides a totally natural and extremely effective purification
15 while the articles are being dried. This is particularly
important to areas such as hospitals, where major steps have
been taken to prevent the cross contamination between rooms and
patients. The present invention would provide an advance in
this area for use in drying laundered gowns of the doctors,
20 nurses, patients, beddings, etcetera. The dryer of the present
invention would also have substantial benefits in prisons, or
jails, nursing homes, coin laundrymats, dry cleaning plants, as
well as any other area, including residential uses, where these
types of articles are laundered.

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1 Although various preferred embodiments of the present
invention have been described herein in detail, it will be
appreciated by those skilled in the art, that variations may be
made thereto without departing from the spirit of the invention
5 or the scope of the appended claims.

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THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A dryer with purification comprising an internal tumble chamber for receiving articles of clothing and the like to be dried and purified, an air passage with an inlet rearwardly in said dryer and defining a flow path to said internal tumble chamber, a blower for moving a supply of air under pressure along said air passage from said inlet and into said chamber, a heater for heating said supply of air and an ozone producing corona grid positioned directly in said flow path for producing ozone carried with said supply of air through said air intake to said chamber.

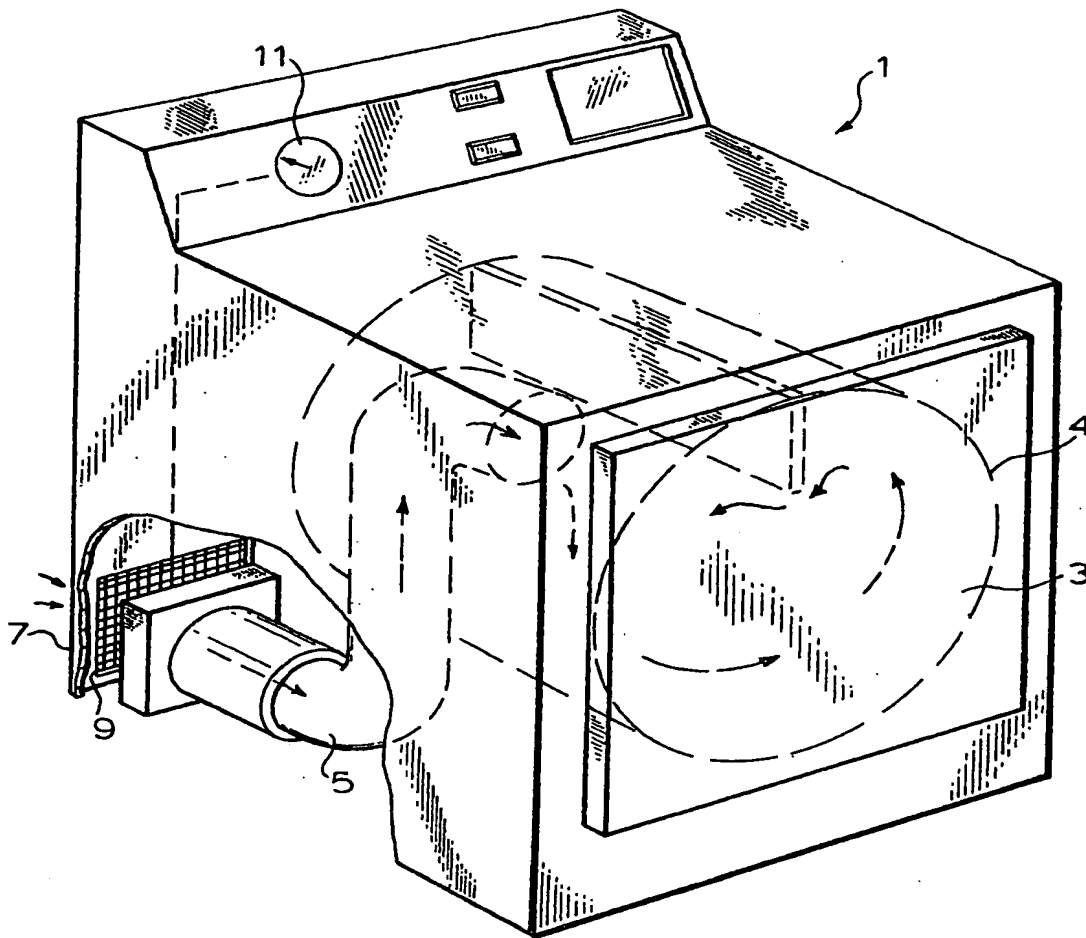
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FIG. 1.



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